



In cooperation with



Window Encapsulation

Window encapsulation from development to series production

Engineering Passion

KraussMaffei

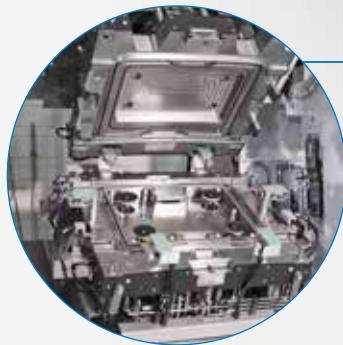
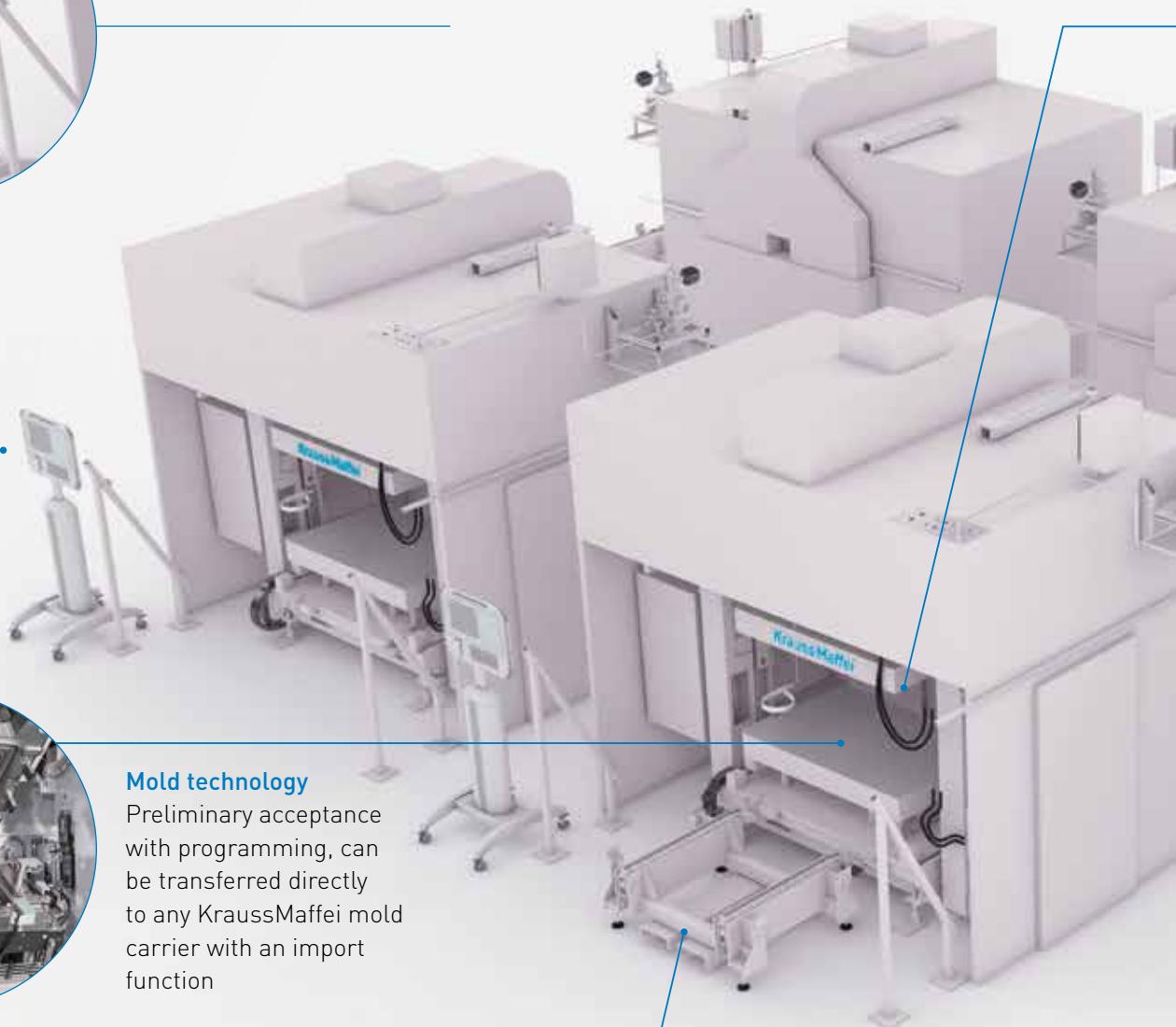
A tour round the plant

Window encapsulation



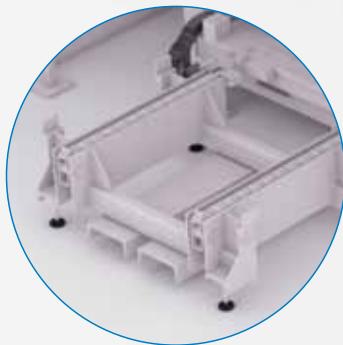
Intuitive operating software

Programming the mold carrier and mold functions without the need for prior knowledge of programming



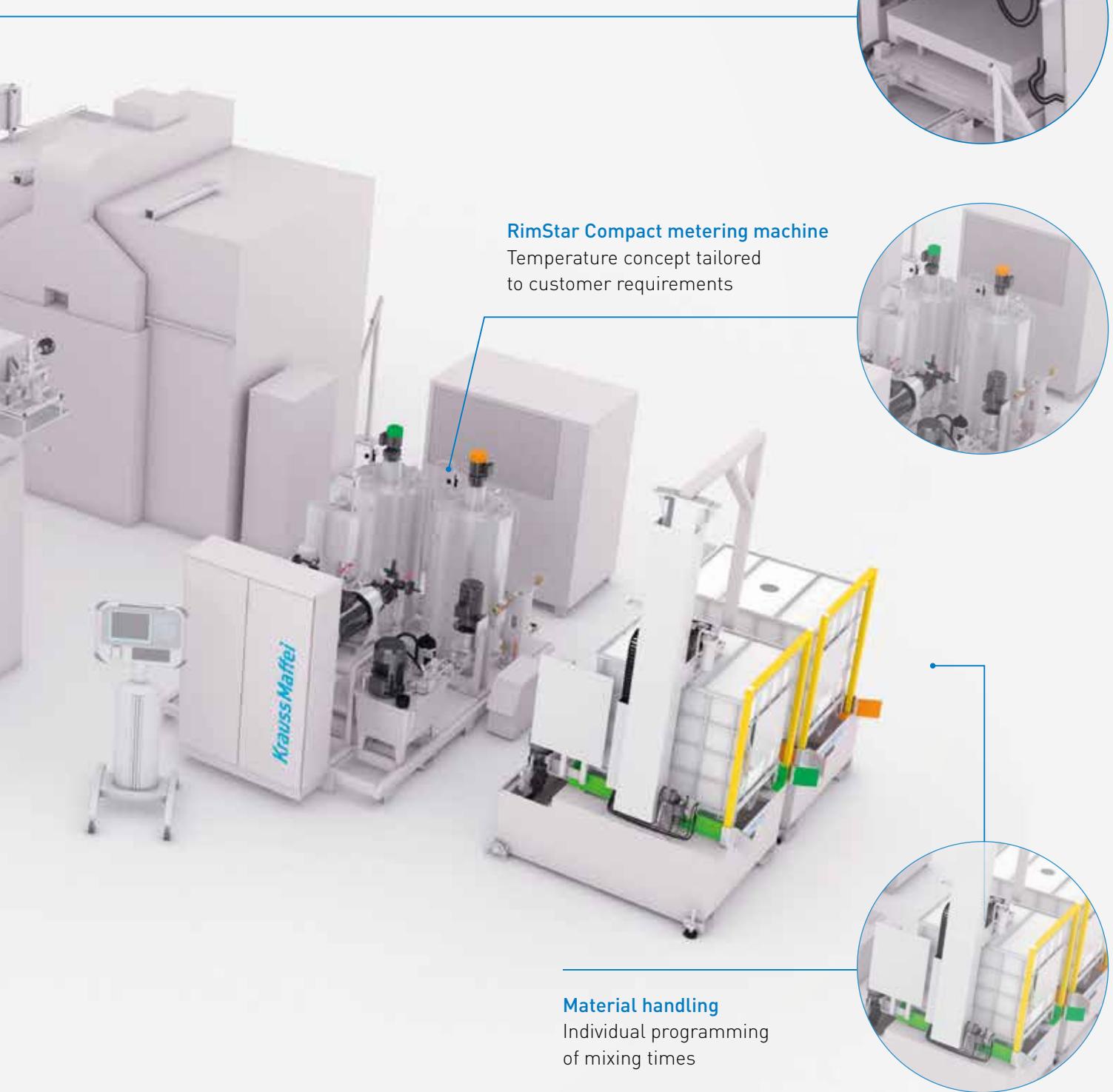
Mold technology

Preliminary acceptance with programming, can be transferred directly to any KraussMaffei mold carrier with an import function



Mold changing trolley

For quick, flexible mold changes



Expertise throughout the entire process chain Window encapsulation with polyurethane from the product idea to series production

KraussMaffei offers a holistic, product-oriented process and plant concept for window encapsulation (WinCap) in the automotive and solar sectors.

As market leaders, we will assist and advise you in the design of turnkey production plants, development activities and the predevelopment of functional prototypes in conjunction with mold specialists Jaeckel Modell- und Formenbau GmbH.

KraussMaffei WinCap technology is a reliable solution for fitting glass windows in passenger utility vehicles safely and tightly. During this process, the window is inserted in a mold and overmolded with a compact PU system.

In this case, the PU foam takes over the sealing function. PU also fills tolerance gaps and protects the glass from excessive spot loads.

Our process-optimized production concept for window encapsulation with PU in series production includes material processing and filling, a metering machine with mixing head, different mold carriers, mold technology and post-mold processing of the window. We also provide advice from the product idea phase to the start of series production.

1. Material handling

An optimized material mixing process and automatic filling of material into the day tank from barrels or IBC containers.

2. RimStar Compact metering machine

Innovative dosing system with premium quality components and accurate temperature control as well as a unique mixing head design.

3. WinCap mold carrier

Different modular electric mold carrier sizes for windscreens, roof modules and rear windows for full-scale series production in the automotive industry.

Features

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|---|
| Individual programming of mixing times |
| Recirculation of the material |
| Special stirrers |
| Dry-run protection |
| Ventilation to prevent bubble formation |

Features

| |
|---|
| Many years of experience developing the mixing head design with minimal tolerances to avoid microbubbles in the component |
| Temperature concept tailored to customer requirements |
| Well-designed self-explanatory operating software with online remote service |
| Modular concept for easy plant expansion without interrupting production |

Features

| |
|---|
| Intuitive software for free programming of movements and mold functions |
| Parallel movements optimize the cycle time |
| Quick-change mold system incorporating magnetic clamping technology |
| Stepless adjustment of ergonomics in line with the height of the operator |
| Quick couplings and parking positions |
| Import and export of mold programs |



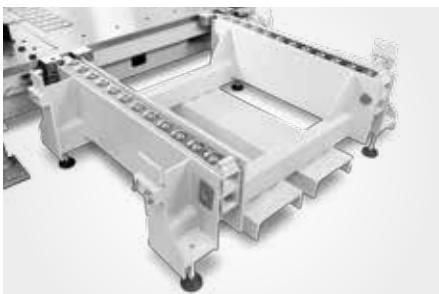
Stirring station and container station for polyol and ISO IBC containers



RimStar Compact 40/16 metering machine for supplying a maximum of 8 mixing heads



WinCap 16.11 mold carrier with a plate size of 1600 x 1100mm and a clamping force of 40t



Mold change trolley for quick tool changes



MK 8/12 ULKP-2KVV mixing head with a max. output of 550 g/sec



Intuitive operating software for programming mold carrier movements and mold functions without the need for prior knowledge of programming

4. Mold technology

From component analysis to the production of perfectly finished components.

Features

Preliminary acceptance with programming, can be transferred directly to any KraussMaffei mold carrier with an import function

Profibus interface, quick change system for mold functions and mixing head

Provision of complete 3D data for molds

5. Technological support

Consultation, layout recommendations, process optimization and training as well as production support and customer-oriented service.

Features

Capacity for developing new ideas

Prototype manufacture

Good network of accessory and material suppliers

Many years of experience in window encapsulation

Quick interface clarification

Detection and resolution of problems via the Teleservice interface

Application areas:

- Automotive
- Solar

Your benefits:

- Machine, mold and process innovations from a single source
- Highly efficient, high-quality turnkey WinCap systems
- Fully automated processes
- Process optimization, consultation and training



Technological leadership through cooperation

KraussMaffei works closely with mold specialists to develop innovative ideas and provide turnkey series production plants.

Together with our cooperation partner Jaechel Modell- und Formenbau GmbH, we pool our expertise to optimize the production chain for the WinCap process.

We have set ourselves the mutual objective of marketing turnkey systems for the encapsulation of windows, glazing and solar panels with the aim of advising and convincing both new and experienced customers with pooled knowledge from our expert team.

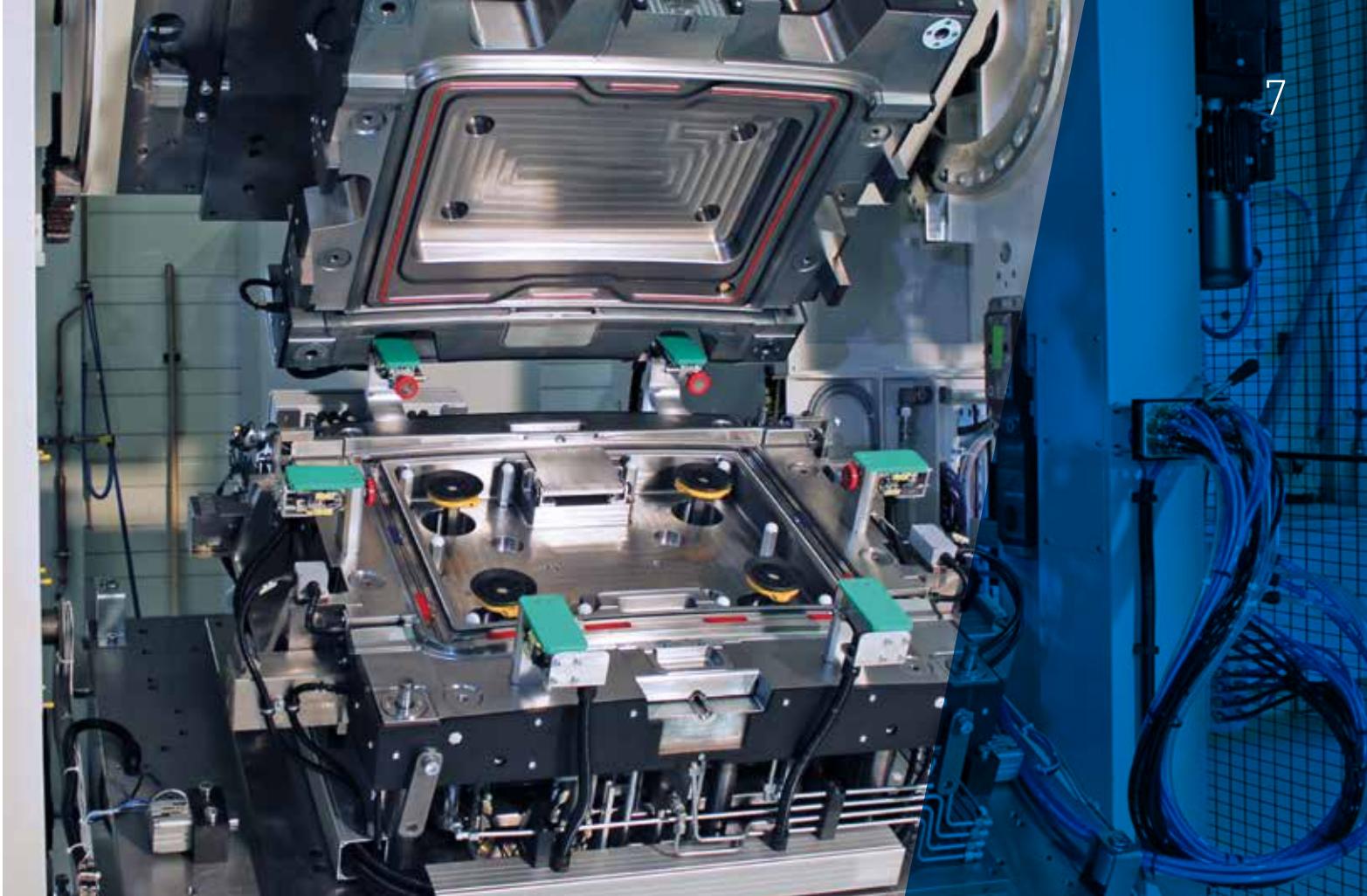
Your benefits:

- Pooled expertise throughout the entire production chain
- Development, prototype manufacture and testing of new components
- Optimized interface between mold and mold carrier
- Process-oriented component design, development and production

Component analysis



Mold prototype



Mold specialist Jaeckel Modell- und Formenbau GmbH

Jaeckel Modelle develops molds that are functional and easy to use. We meticulously develop tailored solutions that meet all your production requirements.

Production markets develop constantly and new visions are created almost on a daily basis. In order to profit from these visions, we must develop the right concept for you and provide you with a unique precision mold that satisfies your specific needs. We transform inspiration into products that impress.

throughout the entire production chain, from the planning stage and the development of the first prototypes to the manufacture of series production parts. Perfectly adapted manufacturing equipment with standardized interfaces that help the customer to reach Industry 4.0.

Our cooperation partner Jaeckel Modelle manufactures products to the highest standards according to the EN ISO 9001 quality management system and offers holistic support

Series production

Material processing and filling

Positioning window and insert in the mold

Window encapsulation in closed mold

Hardening of reactor and component removal

Production consultation

Optimization of the workflow and the workplace

Primer station, cutting station, measuring station, packaging

Maintenance plan
Spare parts package
Online support

WinCap Technology

Turnkey production line for high-volume mass production

System, process and mold technology all under one roof: together with partner Jaeckel Modelle, KraussMaffei is able to implement the entire process chain from the design of components to the finished encapsulated window, providing turnkey solutions with a high degree of system expertise from many years of process experience.

Partner Jaeckel Modelle owns a production-ready plant comprised of a metering machine and mold carrier that simplifies the development and testing of new components. Mold sequences can also be programmed in advance and then imported into the customer's mold carrier.

Pooled competences allow the holistic further development of plants and process technology together with the customer. This cooperative approach will consolidate and further extend our position as technology and market leaders in the long term.